# DATASPEED TAPE RECEIVER 5B

## ADJUSTMENT, LUBRICATION, AND DISASSEMBLY

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1. **GENERAL**

1.01 This section provides adjustments, lubrication and disassembly of the DATASPEED 5B Tape Receiver. It is reissued to improve the contents and to add a tape door adjustment. Arrows in the margins indicate changes and additions.

1.02 Refer to related series of sections for description, installation, trouble shooting, information on options, etc. Refer to the appropriate series of sections for information on the DRPE type high speed tape punch or the data sets.

1.03 The adjustments in this section are arranged in the order that should be followed if a complete readjustment of the apparatus were undertaken.

1.04 Where more than one adjustment is shown on an illustration, follow the letter sequence (A), (B), (C), etc.

1.05 Unless specifically stated otherwise, references to left or right, front or rear, and up or down apply to the apparatus in its normal operating position (viewed from front).

1.06 The tools and spring scales required to perform these adjustments are listed in the applicable section. The standard tool kit (eg. TP171312 tool kit) will suffice for the mechanical cabinet and tape punch adjustments. A TP148370 punch pin penetration gauge is also useful. Adjustment of the punch driver should seldom (if ever) be required. This adjustment however would require an oscilloscope.

1.07 The spring tensions given in this section are indications, not exact values, and should be checked with the proper scales in the positions shown. Springs which do not meet the requirements and for which there are no adjusting procedures should be discarded and replaced by new springs.
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2. ADJUSTMENTS

TAPE PUNCH

2.01 For adjustment information pertaining to the tape punch, refer to the appropriate tape punch (DRPE type) section.

CABINET

2.02 Cabinet Structure

DOOR LATCH

Requirement
Minimum clearance between door and rubber bumpers with door latched.

To Adjust
Position latch to front or rear with its mounting screws loosened.

PUNCH COVER LATCHES

Requirement
Cover to be held firmly against the front panel at the top and two sides.

To Adjust
With the magnetic latch mounting screws friction tight, move the magnet latches in or out to meet requirement. Tighten the screws.
2.03 Cabinet Structure (Continued)

FRONT PANEL CLEARANCE

Requirement
Equal gap between front panel and cabinet shell measured all around front panel. Panel should be parallel to cabinet shell as viewed from side. Gauge by eye.

To Adjust
(1) Loosen right and left outer channel mounting screws friction tight. Position channels up or down until top and bottom gap between front panel and cabinet are about equal and panel is parallel. Tighten screws.

(2) With front panel mounting screws loosened, position panel to left or right until gaps between sides of panel and cabinet are about equal.
2.04 Tape Handling Mechanism

**TAKE-UP REEL**

Requirement
Take-up reel to be parallel to the front panel when viewed from the side of the panel as gauged by eye.

To Adjust
With motor mounting bracket nuts loosened, position the motor mounting bracket in or out to meet requirement.

**FRONT PANEL**

**MOTOR MOUNTING BRACKET**

**INNER FRAME**

**MOUNTING BRACKET NUTS**

**TAKE-UP REEL**
2.05 Tape Handling Mechanism (Continued)

**WINDER SWITCH CONTACT POSITIONING**

**Requirement**
The two electrodes of the tape winder switch should be positioned in a horizontal plane.

**To Adjust**
Loosen the switch clamp and rotate the switch within its clamp to meet requirement.

**WINDER SWITCH POSITIONING**

**Requirement**
Winder motor should start when inner post on tape sensing arm is
- Min 3-3/4 inch---Max 4-1/2 inch from tape tensioner bail.

**To Adjust**
With clamp-anchor screw loosened, rotate switch clamp (and switch) about screw to meet requirement. Tighten mounting screw.
2.06 Tape Handling Mechanism (Continued)

**TAPE SENSING ARM CLEARANCE**

Requirement
When moved into its latched position, the tape sensing arm should clear the tape tension bail and the tape maze posts on the front panel.

To Adjust
With sensing arm mounting screw friction tight, move the arm to right or left to meet requirements. Tighten screw.

**TAPE SENSING ARM SPRING**

Requirement
- Min 10 oz---Max 14 oz to pull the sensing arm into contact with the latch.

To Measure
Hook a 32 oz spring scale under the sensing arm handle and pull vertically.

**TAPE TENSION BAIL SPRING**

Requirement
- Min 7 oz---Max 10 oz to lift tape tensioner shoe off its post.

To Measure
Hook a 32 oz spring scale over the bail at the tape tensioner post and pull vertically.

**TAPE SENSING ARM LATCH SPRING**

Requirement
- Min 1/4 oz---Max 3/4 oz to start latch moving.

To Measure
Apply push end of an 8 oz scale to handle of latch and push in direction shown.
2.07 Tape Handling Mechanism (Continued)

**V-BELT TENSION**

Requirement
With capstan drive assembly held against its lower stop, and a 32 oz scale applied to the top of the belt above the stop post,

Min 7 oz --- Max 17 oz
required to force V-belt against stop post.

To Adjust
Loosen the pivot post nut and position the capstan drive assembly to front or rear to meet requirement.

**TAPE GUIDE LEVER**

Requirement
Min 1/2 oz --- Max 2 oz
to lift the lever away from the drive roller.

To Measure
Hook an 8 oz spring scale over the lever and pull at right angles to the pivot point.

To Adjust
Unhook one end of the guide lever spring and wind or unwind the spring to meet requirement.

**CAPSTAN CLEARANCE**

Requirement
With the drive lever against its eccentric stop

Min 0.040 inch --- Max 0.080 inch
gap between the drive roller sleeve and the knurled capstan.

To Adjust
With the eccentric locknut loosened, rotate eccentric to meet requirement. Tighten nut.
2.08 Tape Handling Mechanism (Continued)

**TAPE DRIVE ROLLER SPRING**

**Requirement**
- Min 3 oz---Max 5 oz
to engage drive roller with knurled capstan.

**To Measure**
- Apply push end of scale to drive roller hub and push in line with spring.

**CAPSTAN DRIVE ASSEMBLY SPRING**

**Requirement**
- Min 25 oz---Max 30 oz
to push assembly to lower limit.

**To Measure**
- Apply push end of scale to capstan hub and push in line with spring.
2.09 Fan Assembly

**FAN SLEEVE**

Requirement
With the rotor endplay taken up away from the gear box, there should be

- **Min:** some
- **Max:** 0.015 inch clearance between the sleeve and the bearing at the rear rotor bearing housing.

To Adjust
With the rotor held against the rear bearing and the sleeve mounting screw loose, position the sleeve until the requirement is met. Tighten the screw.

**FAN HOUSING MOUNTING BRACKET**

Requirement
There should be a clearance of

- **Min:** 0.035 inch
- **Max:** 0.075 inch between the fan hub and mounting bracket when the rotor shaft endplay is taken up to make the clearance a minimum.

To Adjust
With the two nuts securing the housing mounting bracket friction tight, position the bracket to meet requirement. Tighten the nuts.
2. 10 Tape Handling Mechanism (Continued)

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2. 10 Tape Handling Mechanism (Continued)

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LOW TAPE SWITCH CLAMP

ANCHOR NUT

LOW TAPE ARM

(A) LOW TAPE SWITCH ELECTRODES

Requirement
The two electrodes of the low tape switch should be positioned in a horizontal plane.

To Adjust
With the switch clamp anchor nut loose, rotate the mercury switch within its clamp.

(B) LOW TAPE SWITCH CLAMP POSITIONING

Requirement
The low tape lamp should light and the power on lamp begin flashing when the tape supply roll diameter is
Max 5 inch---Min 4 inch

To Adjust
Rotate the switch clamp (and switch) about its mounting screw to meet requirement. Tighten anchor nut.
2.11 Tape Handling Mechanism (Continued)

TAPE COVER

RELEASE-LATCH MECHANISM

PLASTIC DOOR

TAPE DOOR

Requirement
Plastic door and cover positioned for width of tape in container.

To Adjust
(1) For 1 inch or 7/8 inch tape, press release latch and rotate assembly counterclockwise.

(2) For 11/16 inch tape, press release latch and rotate assembly clockwise.

TO POSITION DOOR FOR TAPE WIDTH RELEASE LATCH AND PRESS IN DIRECTION OF ARROWS.
SECTION 592-808-700

RECEIVER MODULE

2.12 To compensate for variations in voltage, components, and mechanical tolerances it is necessary to make an initial (factory) adjustment of all punch magnet driver cards (EC672) and of the logic card (EC675). These adjustments are made as follows:

1. Set the potentiometer (R13) on all nine magnet driver cards (Z104 through Z112) to mid-range.

2. Transmit an all marking signal to the reperforator control (at the maximum required rate).

3. Use an oscilloscope to monitor pin 13 of logic and Z113. The monitored waveform should be a negative pulse occurring at the marking signal rate. Adjust potentiometer R13 on Z113 so that the negative pulse width is 1.9 milliseconds.

4. Turn R13 on the feed magnet driver card (Z112) counterclockwise until a failure occurs in the tape. Now back off the potentiometer adjustment 5 turns (clockwise).

(5) Repeat step (4) for magnet driver cards Z104 through Z111.

3. LUBRICATION

GENERAL

3.01 The following lubrication symbols are used throughout this section.

O1 - one drop of oil (KS7470)
O3 - three drops of oil (KS7470)
G - thin coat of grease (Lubriplate)

3.02 No lubrication is required at the receiver module. The punch and cabinet should be lubricated before they are placed in service, again within a few weeks, and thereafter at intervals specified for the punch.

TAPE PUNCH

3.03 Refer to the appropriate tape punch (DRPE type) section.
3.04 Cabinet Structure

3.05 Tape Handling Mechanism
3.06 Tape Handling Mechanism (Continued)

O1 Each Bearing Hole

Tape Tension Bail

O1 Hooks - Each End

Sensing Arm Spring

3.07 Tape Handling Mechanism (Continued)

O1 Pivot

Tape Guide Lever

Guide Lever Spring

O1 Hooks - Each End

O1 Hooks - Each End

Drive Roller Spring

01 Shaft

Drive Roller

3.08 Tape Handling Mechanism (Continued)

O1 Hooks - Each End

Drive Assembly Spring

O1 Pivot

Drive Assembly

O1 Hub

Knurled Capstan

4. DISASSEMBLY

4.01 Disassembly of the Tape Receiver is straightforward and requires no instructions. Refer to the appropriate tape punch (DRPE type) section for information regarding that unit. Check adjustments after reassembly wherever they apply.